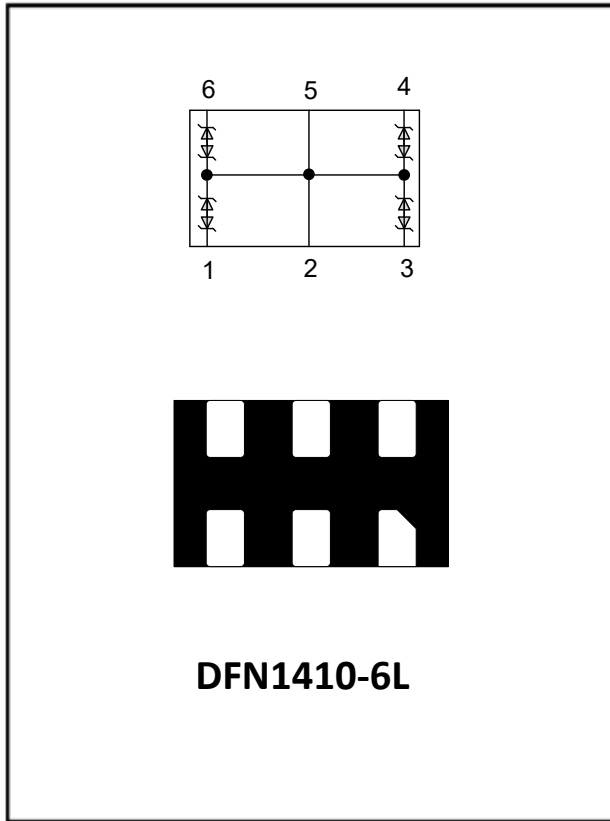


4-Line, Bi-directional, Low Capacitance Transient Voltage Suppressor



Features

- Stand-off voltage: 5V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 2A (8/20 μs)
- low capacitance: $C_j = 3\text{pF}$ typ.
- Ultra-low leakage current: $I_R < 1\text{nA}$ typ.
- Low clamping voltage: $V_{CL} = 14\text{V}$ typ. @ $I_{PP} = 16\text{A}$ (TLP)
- RoHS Compliant

Applications

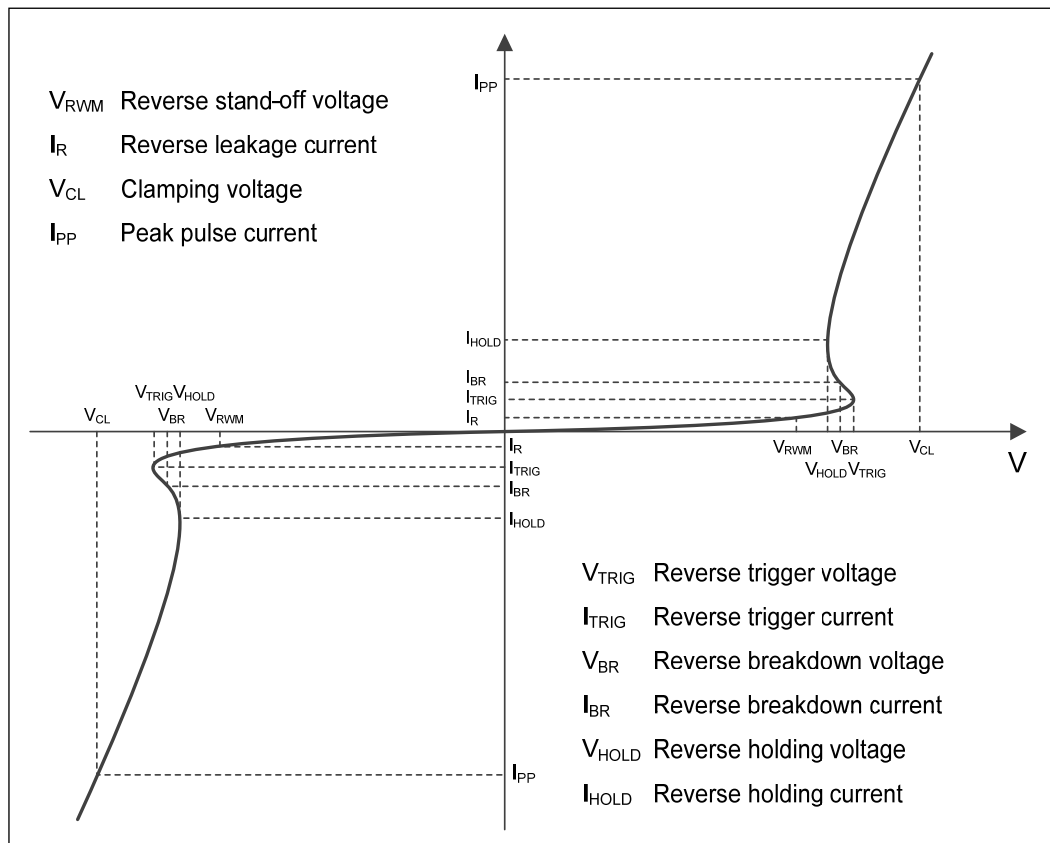
- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Communication systems
- Portable electronics
- Subscriber Identity Module (SIM) Card protection

Mechanical Data

- Package: DFN1410-6L
- Case Material: "Green" Molding Compound
- Marking Information: See Below

• 3204

■Definitions of electrical characteristics





ESDLC0504P7B

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	24	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	2	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 25	
Junction temperature	T_J	125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$			0.1
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$	5.3		
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 16A, t_p = 100ns$		14	
Clamping voltage ²⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$ any I/O pin to ground		8.5	9
		V	$I_{PP} = 2A, t_p = 8/20\mu s$ any I/O pin to ground		10	12
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$ any I/O pin to ground		2	3.5

Notes:

- (1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.
- (2). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLC0504P7B	F1	Approximate 2.5	3 000	30 000	120 000	7" reel

■ Characteristics (Typical)

Fig.1 8/20 μ s waveform per IEC61000-4-5

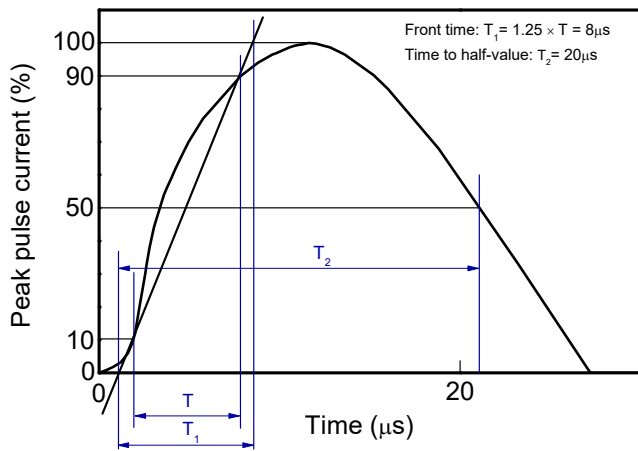


Fig.2 Contact discharge current waveform per IEC61000-4-2

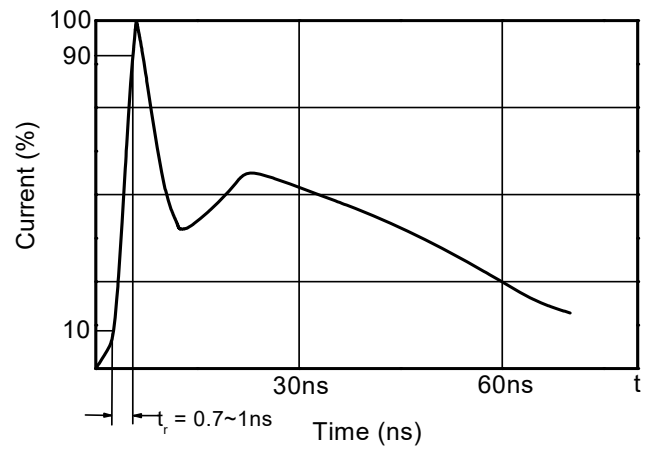


Fig.3 Clamping voltage vs. Peak pulse current

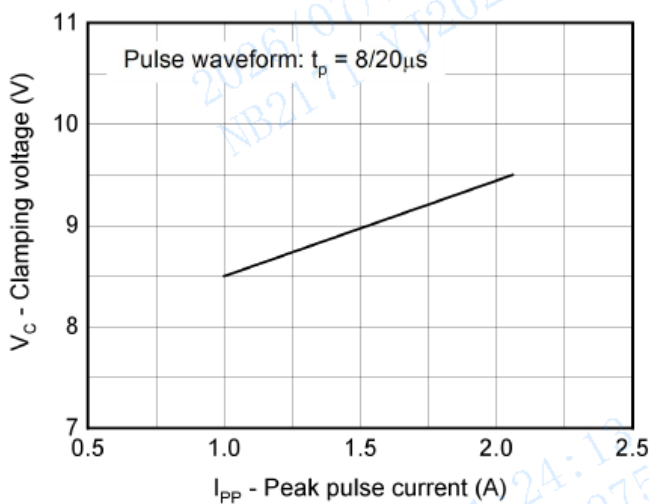


Fig.4 Capacitance vs. Reverse voltage

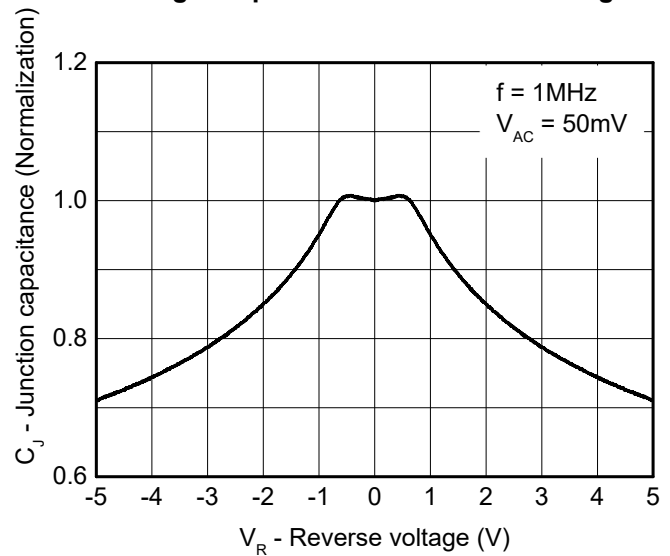


Fig.5 Non-repetitive peak pulse power vs. Pulse time

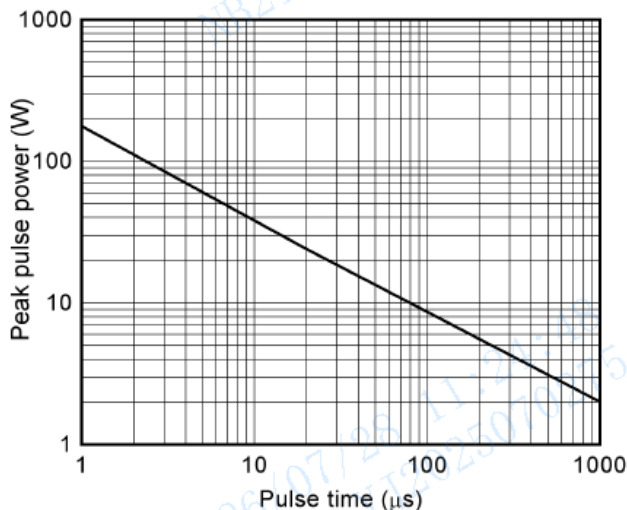


Fig.6 Power derating vs. Ambient temperature

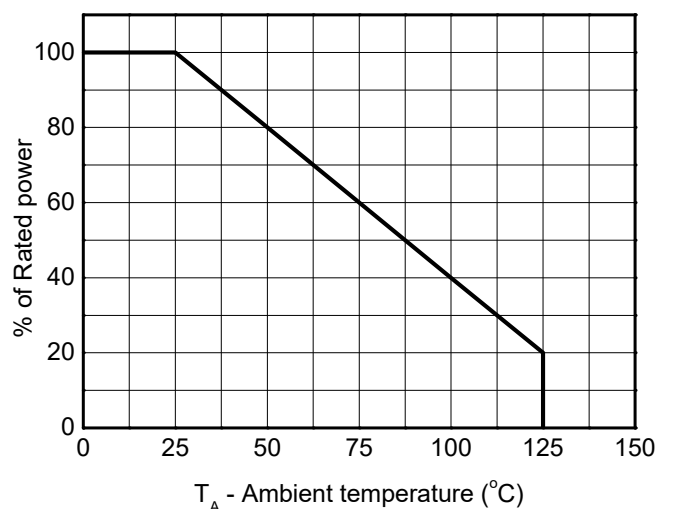


Fig.7 ESD clamping
(+8kV contact discharge per IEC61000-4-2)

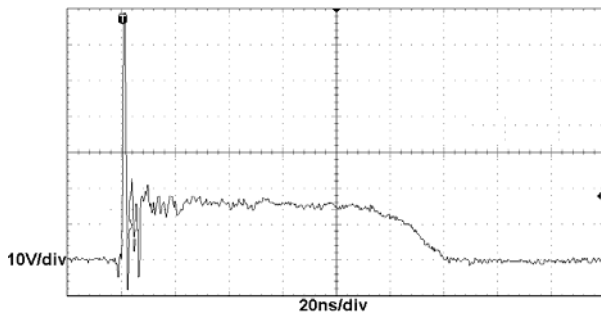


Fig.8 ESD clamping
(-8kV contact discharge per IEC61000-4-2)

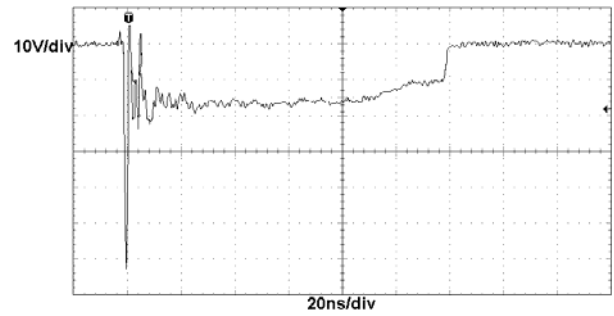
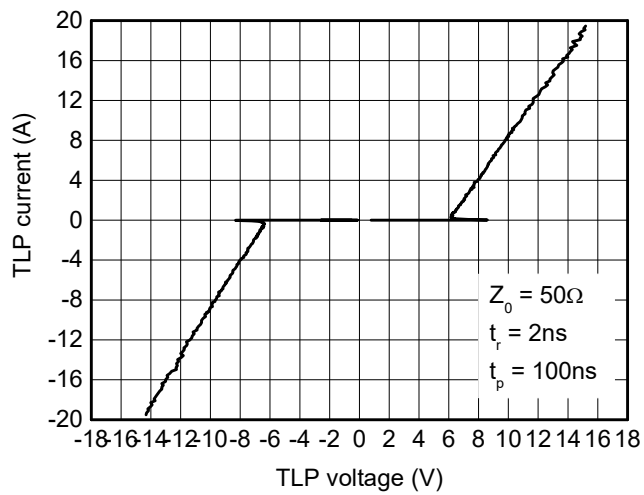
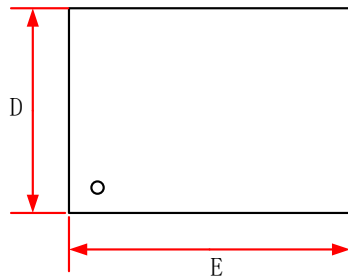


Fig.9 TLP Measurement

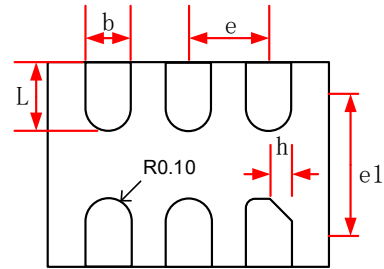




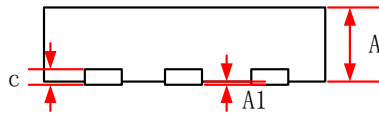
■ Outline Dimensions



Top View



Bottom View



Side View

Symbol	MILLIMETER		
	Min.	Typ.	Max.
A	0.50	0.55	0.60
A1	0.00	0.02	0.05
b	0.15	0.20	0.25
c	0.05 Ref.		
D	0.95	1.00	1.05
E	1.40	1.45	1.50
e	0.50 BSC		
e1	0.65 BSC		
L	0.25	0.35	0.45



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